

Title: Investigating Professional Quality of Life in Nursing Staff Working in Adolescent Psychiatric Intensive Care Units (PICU)

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Structured Abstract:

Purpose: The purpose of this study was to investigate professional quality of life of mental health nursing staff working within an Adolescent PICU setting. Professional quality of life is important, as there is a correlation between staff wellbeing and the quality of healthcare services delivered, particularly within mental health settings. Mental health nursing staff in Adolescent PICU services deal with a wide range of physically and emotionally demanding challenges when providing care, yet the potential impact of this demanding work upon staff in this context has not been explored.

Design: The study used a longitudinal non-experimental design with a purposive sample. Quantitative data was collected from a total of seventeen registered mental health nurses and health care assistants working in an Adolescent PICU Unit in the North of England. Repeated measures were administered at three consecutive intervals, three months apart, using a validated self-report measure, the Professional Quality of Life Scale V (ProQOL V, Stamm, 2010). Data was analysed using descriptive and inferential statistical analysis using benchmark data from the ProQoL V instrument for comparison.

Findings: Analysis of results compared to ProQol V benchmark data showed significantly higher than expected levels of compassion satisfaction, and lower than expected levels of burnout and secondary traumatic stress for Adolescent PICU nursing staff within the study. There were no significant differences

between qualified nurses and health care assistants. Potential explanations and practice implications of these findings are discussed.

Value: This is the first published study to investigate professional quality of life within the mental health nursing population working in Adolescent PICU, providing empirical insights into a previously unexplored mental health context.

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Introduction

Adolescent psychiatric intensive care units (PICU) are a small and highly specialised component of the portfolio of child and adolescent mental health service delivery in the UK. Adolescent PICU services are usually mixed gender, 'secure' inpatient environments for the short-term containment and treatment of young people detained under the Mental Health Act (1983). Young people detained in PICUs typically display symptoms and behaviours associated with a serious risk of either suicide, absconding with a significant threat to safety, aggression or vulnerability (NHS England 2016). An environment in which multi-disciplinary care and treatment can be delivered safely is created through high levels of physical, relational and procedural security, for which nursing staff often carry the burden of responsibility. Physical, procedural and relational security are interrelated concepts that together create a form of therapeutic security, essential for both the maintenance of safety and the promotion of recovery (Tighe & Gudjonsson, 2012). Physical security relates to both the design and maintenance of the environment and its fittings (e.g. locks and

alarms) and the staff resources required for the safe operation of them. Within this, procedural security is created through implementation of the policies, procedures and systems for maintaining patient safety, for example patient observations and checks (Kennedy, 2002). Quantitative elements of relational security include the staff/patient ratio and the amount of face-to face contact time between staff and patients. Whilst qualitative domains of relational security have been described as a detailed understanding of those receiving care and of how to manage them, delivered within the context of positive therapeutic relationships (DH, 2010).

There are currently five adolescent psychiatric intensive care units in the UK. In addition, to meet the demand for inpatient services that can contain the risks presented by adolescents experiencing acute psychiatric disturbance, an increasing number of 'open' adolescent inpatient mental health units are developing PICU-type resources within their establishments (NHS England, 2014). Although the number of specific adolescent PICU inpatient units are small, they play an important part in the recovery journey of a significant cohort of children in any twelve-month period. This is because the time-limited admission model of care used results in high patient turnover, meaning PICUs provide for a significant number of young people annually. In 2014, NHS England reported that there were 96 PICU beds in England, with an average admission length of 70 days and a bed occupancy rate of almost 80% (NHS England, 2014). This approximates to provision for 300-400 admissions a year. The relative success of a PICU admission can be pivotal in deciding whether a young person's trajectory is toward a return to community care or towards

longer-term restrictive or secure mental health care. In addition, the number of young people requiring PICU beds appears to be increasing (NAPICU, 2015). Despite these factors, there has been no published research in relation to nursing care provision within Adolescent PICU services to date.

Research from adult PICU environments highlight that they are largely organised around the provision of short-term care within a highly contained environment for those experiencing acute psychiatric distress who are usually a risk to themselves or others (Bowers, 2008, Gentle, 1996). The environment and the high levels of violence and aggression within it are often managed through relatively high nursing staff levels, of which the dominant work force is unqualified health care support workers. The care of service users who present with high levels of violence is known to be complex, often provoking difficult feelings and contributing to negative work experience (Sondenaa et al., 2013). In a survey of morale amongst adult mental health workers in England, PICU staff were identified as at particularly high risk of emotional strain and burnout because of an interaction between high job demand, low perception of autonomy and poor support (Johnston et al, 2012). Studies in adult PICU settings have also noted a lack of respect and inadequate resources being provided to nurses working in PICU settings that adversely affect staff satisfaction at work (Gwinner and Ward, 2013). In addition, adolescent PICU environments are known to provide for a population with more diverse and complex presentations (Page and Parker, 2015) and general adolescent psychiatric inpatient units have been identified as environments that can place

nursing staff in significant moral distress (Musto and Schrieber, 2012).

Therefore, it can be reasonably expected that the impact of adolescent PICU environments upon mental health nursing staff may well be comparable to those working in adult PICU contexts.

Compassion fatigue is constituted of two related dimensions: burnout and secondary traumatic stress (Stamm, 2010). In health care staff, it is associated with reduction in reflective capacity, indifferent and hard responses toward patients and a reduction in staff's own mental wellbeing (Coetzee and Klopper, 2010). The cumulative work related stress experienced by health care providers has been shown to impact upon the delivery of healthcare services (Sinclair et al, 2017). Burnout is a psychological syndrome, characterised by exhaustion, frustration, anger and depression associated with professional life (Stamm, 2010) that occurs in response to chronic uncontrollable work demands when providing a service (Maslach et al., 2001). It is most common in workers who have to give something of themselves emotionally (Sondenaa et al., 2013). Conversely, levels of compassion satisfaction - the degree of pleasure derived from being able to do one's work effectively (Stamm, 2010) - have been correlated with reduced risk of burnout (Ray et al., 2013). More specifically, in the adult PICU environment, a study by Verhaeghe et al. (2016) found that perceived self-efficacy in mental health nurses, in relation to the management of aggression, was positively correlated to compassion satisfaction and negatively correlated to perceived secondary traumatic stress.

Therefore, understanding the impact of the clinical task on, and the specific support needs of, nursing staff working in an Adolescent PICU environment is potentially an important component of developing effective and high quality patient care strategies. This study aims to investigate both the positive and negative dimensions of professional quality of life for nursing staff within an adolescent PICU setting.

Research objectives and hypothesis

The primary research objective for the current study was to determine relative levels of compassion satisfaction and compassion fatigue reported by registered mental health nurses and unqualified healthcare assistants working in an adolescent psychiatric intensive care unit (PICU).

The secondary objective was to compare the levels of Compassion Satisfaction and Compassion Fatigue in the participant group with benchmark data and data from similar workforces, in order to identify potential similarities and differences that may warrant further investigation.

It was hypothesized that the group would experience higher levels of compassion fatigue and less compassion satisfaction, as compared to the normative benchmark data for the instrument being used. This hypothesis was based on:

- The fact that high job demand and low autonomy have previously been identified as characteristic of roles within restrictive care environments (Johnson, 2012).
- That service users within adolescent PICU present with symptoms of severe mental health disorder which are associated with very high levels of adverse life events including psychological and physical trauma (Smith and Hartman, 2003), and that the secondary traumatic stress experienced from caring for severely ill children has been identified as a contributor to compassion fatigue (Berger et al., 2015).
- That there are very high levels of service-user enacted violence within the Adolescent PICU environment, which have been shown to contribute to a negative working experience and feelings of fear and anxiety within staff groups (Sondannaa et al, 2013). The prevalence of traumatic stress in mental health nurses who have been subject to violence has been shown in a previous study to be high (Richter and Berger, 2006).

Method

The study used a longitudinal, non-experimental design with a purposive sample. Quantitative data was collected from a sample of the entire staffing complement, qualified nurses and health care assistants, working in an Adolescent PICU Unit in the North of England (n=22). A total of seventeen members of staff consented to participate. Repeated measures were administered at three consecutive intervals, three months apart, using a

validated self-report measure, the Professional Quality of Life Scale V (ProQOL V, Stamm, 2010). Data collection at multiple intervals was used in order to manage prior observations that cross-sectional design in acute environments that uses data from a single point in time, is limited in its reliability, due to the degree of day-to-day fluctuation that can affect staff perception (Sacco et al, 2015; Hopper et al, 2010).

Ethical considerations

Both the University Ethics Committee (HSCR14/19) and the Research Governance Committee of the participating healthcare organisation (non-NHS) granted ethical approval. All those who chose to participate provided informed consent. Participants were informed of their right to withdraw from the study at any point and that data would be stored securely and anonymously in accordance with the Data Protection Act (1998). All data was anonymised and only reported in an aggregated form to maintain confidentiality.

Procedure

All health care assistants and qualified nurses within one adolescent PICU were invited to participate in the study by completing the self-report measure at three intervals, 12 weeks apart. Participant information and consent forms were distributed. Measures were distributed to those who completed consent forms. They were completed anonymously and collected in a sealed post-box to maintain anonymity. A digital version via Bristol Online Survey (BOS) software

was also available. Participants chose a nickname so that their questionnaires from each time point could be matched, and to facilitate withdrawal of data if necessary.

Data collection and research instrument

Data was collected via administration of the anonymous self-report psychometric instrument Professional Quality of Life Questionnaire version 5 (ProQOL V) (Stamm, 2010). This is a 30 point instrument using a 5 point Likert scale (1= never, 5= very often). The measure is comprised of three 10-item subscales: Compassion Satisfaction, Burnout and Secondary Traumatic Stress. Together the burnout and secondary traumatic stress subscales give a measure of Compassion Fatigue.

The ProQOL Concise Manual (Stamm, 2010) defines compassion satisfaction as the pleasure an individual derives from being able to do their work well. Compassion fatigue is defined as feelings of unhappiness, disconnectedness, and insensitivity to the work environment. Burnout is described as exhaustion, frustration, anger and depression associated with professional life, and Secondary Traumatic Stress is a negative feeling driven by fear and primary or secondary work-related trauma (Stamm, 2010).

Although definitions of the concepts of compassion satisfaction and fatigue have been identified as problematic (Berger et al, 2015), the ProQOL V has been noted as a useful tool for monitoring healthcare provider wellbeing, as it enables comparisons between facilitating and inhibiting factors associated with

caring, as well as comparison across healthcare disciplines and contexts (Sinclair et al, 2017).

Internal reliability of the scale is good with Cronbach's Alpha reliability estimates reported as 0.88 for compassion satisfaction, 0.75 for burnout and 0.81 for secondary traumatic stress. Scale validity has been calculated from over 200000 participants from around the globe (Stamm 2010)

Data analysis

Responses were coded and entered into the statistical software package SPSS (version 23). Scale scores were summed for compassion satisfaction (CS), burnout (BO) and secondary traumatic stress (STS) for each participant as per the instrument manual (Stamm, 2010). As the total number of missing values was very small (less than 5% of the total sample), they were replaced with the respondent's mean for that particular subscale, in accordance with the suggestion by Tabachnick and Fidell (p.63, 2007). Descriptive statistics were calculated. Frequency analyses and mean scores were calculated for both individual items and the three sub-scale constructs (CS, BO, STS) for each of the two subgroups – registered nurses and health care assistants. A nominal significance level ($P \text{ value} \leq 0.05$) was established a priori.

Data was not normally distributed and so non-parametric tests were selected to undertake analysis of statistical significance. Relative stability of the scores over the three time points were analysed using a non-parametric Friedman test of

differences among repeated measures. Differences between the two subgroups (HCA and RMN) were compared using the Mann Whitney U test.

Box plots of the median, quartile and extreme values for each subscale at each time point were used to undertake the frequency analysis and initial comparison with benchmark data, using the cut points for the ProQol instrument. Pearson's Chi Square test was used to determine whether statistically significant differences existed between participants in the current study and the published benchmark data for 'normal populations' in the ProQol V Manual (Stamm, 2010).

As individual's total scores were expected to cluster closely around the instrument mean (Stamm, 2010), individual item scores were also analysed for trends. This was in particular regard to the potential sensitivity of individual items to picking up early signs of the dimensions that make up compassion fatigue, i.e. burn out or secondary traumatic stress. Although the term compassion fatigue was originally used in reference to nurses experiencing burnout (Ray et al., 2013), a meta review of the concept has identified that one of the limitations of systematic definitions of compassion fatigue is that they tend to be drawn from the more narrow discipline of counselling and psychotherapy. This means that the items for compassion within validated scales such as the ProQol are also narrowly defined (Sinclair et al., 2017). This raises questions regarding sensitivity of the ProQol measure items for groups

outside of those from which it was devised indicating the need for an item level analysis.

A literature search of Cinahl, Medline and Psychinfo databases and a hand search of the comprehensive bibliography of studies using the ProQol measure (Stamm, 2016) revealed that no studies have been undertaken with directly comparable populations. Instead, as well as being compared to the ProQol benchmark data, findings from the study were compared with research findings from a sample of forensic inpatient mental health nurses, specifically investigating the association of high frequency violence within a secure inpatient setting with post-traumatic stress disorder (PTSD) symptoms and their impact upon quality of life (Lauvrud et al, 2009). This is the closest working environment and discipline group for Adolescent PICU mental health nursing staff, in which professional quality of life has been investigated using the ProQOL measure.

Results

Context

The unit in which the study was located is a 10 bedded Adolescent PICU. Criteria for admission are young people aged 12-18 years old, presenting with severe mental disorder and associated actual harm to self and other that cannot be safely contained in a less secure adolescent inpatient environment, and who are detained under the Mental Health Act (1983). During the period of study the age range of patients was 14-18 years old.

Whilst it has been estimated that between 23-50% of patients in general adolescent inpatient units are involved in violent incidents (Baeza et. Al, 2013), the prevalence of violence within the PICU group generally and within this specific unit at the time of study, is much higher. NHS England commissioners coordinate referrals to Adolescent PICU in England, as the service provision is commissioned at a national level. Adolescent PICU bed scarcity (NHS England, 2014) means that referrals need to be carefully screened to ensure that they meet the criteria for high levels of clinical acuity and risk. Mental health Act (1983) requirements of least restrictive practice mean that it must have been demonstrated that patient's level of actual and potential violence to self and others, or vulnerability to others, cannot be managed in a more open environment. This means that the percentage of patients in PICU who are involved in violent incidents during their admission more closely approaches 100%. Incidents on the unit under study typically occurred daily, with multiple incidents commonly occurring within one period of nursing duty (12 hours).

Analysis of the patient profile during the period of data collection (Foster and Smedley, 2016), revealed that the patient population was constituted of young people experiencing psychotic and mood disorders, neurodevelopmental disabilities, suicidality, complex post-traumatic stress disorder and the impact of chronic or multiple childhood adverse experiences.

The participating staff were all part of one nursing team providing care within the adolescent PICU, and were employed to work in the adolescent unit specifically. During the period of study (9 months) the team experienced one temporary period of staffing shortage lasting several weeks and had two different ward managers in post. However, the leadership team also included a very experienced senior nurse who had worked on the unit since its opening, 8 years previous.

Post incident debriefs were implemented on the unit in accordance with the hospital policy. During the period of study, as part of the nursing team wellbeing strategy, a weekly externally facilitated clinical supervision group was implemented. It was based on a psychoanalytic work discussion model (Jackson, 2008) and facilitated by an adolescent psychotherapist. The group runs at a time to maximise nursing team access (early in the morning). It is open to all those members of the nursing team who are not required in the clinical area at that time to meet the minimum clinical observation levels. A full description of the model of delivery can be found in Foster and Smedley (2016).

Participants

The initial response rate was high (77%), with seventeen of the twenty-two staff working on the unit at the time consenting to participate and returning questionnaires. This comprised five registered mental health nurses (RMN) and twelve health care assistants (HCA). Although the sample was skewed towards health care assistants, the 30:70 split between RMN's and HCA's in the sample closely approximated the proportional split within the workforce in the unit (proportion RMNs = 32%). No other demographic data was recorded, due to the small sample size meaning that any additional demographic data may have compromised participant anonymity.

Across the nine-month period of the study, eight participating staff left the service. Reasons for leaving were recorded in case this gave any secondary information regarding staff quality of life and wellbeing. Five staff left for promotion opportunities and three health care assistant staff left to undertake professional healthcare practitioner training programmes.

Table 1: Sample and participation rates

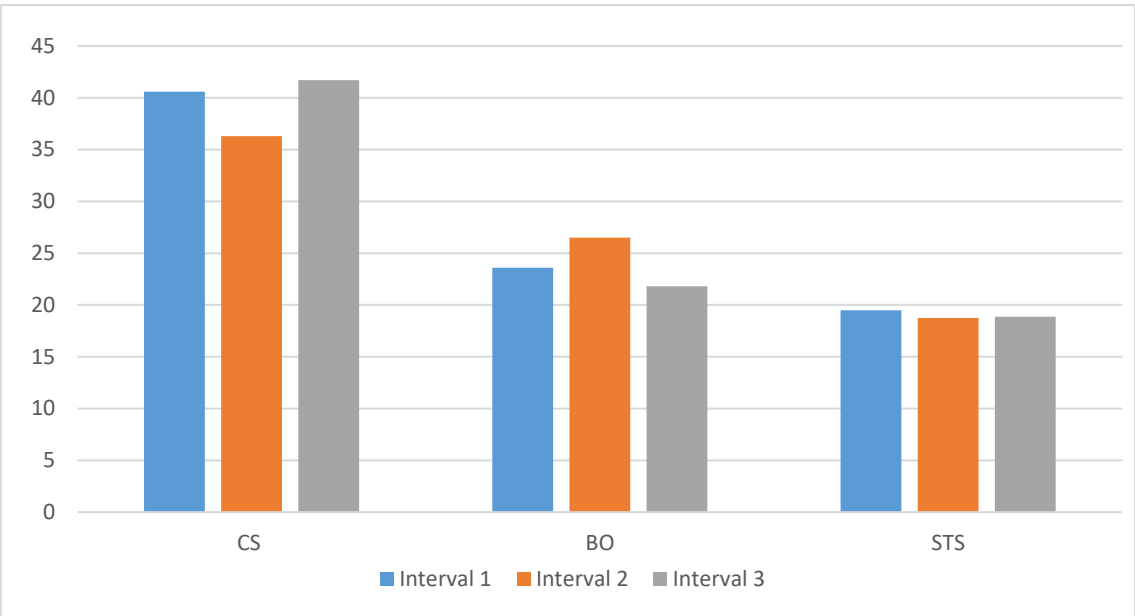
	N	As a percentage of the sample group	As a percentage of the total workforce
Number participants completing 1st interval	17	100%	77%
Number participants completing 2 intervals	9	53%	41%
Number participants completing 3 intervals	7	41%	32%
Total number of ProQol measures completed	33	/	/

Differences between time points

The mean and standard deviation for questionnaire subscales at each time point are presented in Table 2.

Comparing mean scores for the whole sample at each time point demonstrated no change in secondary traumatic stress (STS), a decrease in compassion satisfaction (CS) and an increase in burnout (BO) (See figure 1)

Figure 1: Mean results for compassion satisfaction (CS), burnout (BO) and secondary traumatic stress (STS) over the 3 time intervals



However, a Friedman test of differences among repeated measures was conducted and revealed no statistical significance in observed differences (Table 2). Indicating that scores showed stability over time.

Table 2: Mean scores, standard deviation for each time point and Friedman test of differences

Subscale	Time 1 (n=17)			Time 2 (n=9)			Time 3 (n=7)			Total (n=33)			Chi-Square value	df	P value
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range			
CS	40.59	5.22	18	36.3	2.83	8	41.71	5.57	14	39.69	5.18	19	1.714	2	0.424
BO	23.59	4.23	17	26.50	4.41	13	21.86	4.34	12	23.94	4.47	18	2.533	2	0.282
STS	19.47	3.47	15	18.75	5.73	16	18.86	5.05	15	19.16	4.32	17	1.200	2	0.549

Levels of Compassion Satisfaction (CS), Burnout (BO) and Secondary Traumatic Stress (STS)

Respondent scores for the three subscales were compared with the normative benchmark data from the ProQol V manual (Stamm, 2010) in Figures 2-4. The horizontal lines indicate cut points for the bottom and top quartile from the benchmark data.

Figure 2: Box Plot Indicating Median, Quartiles, Extreme Values for Compassion satisfaction at Each Time interval

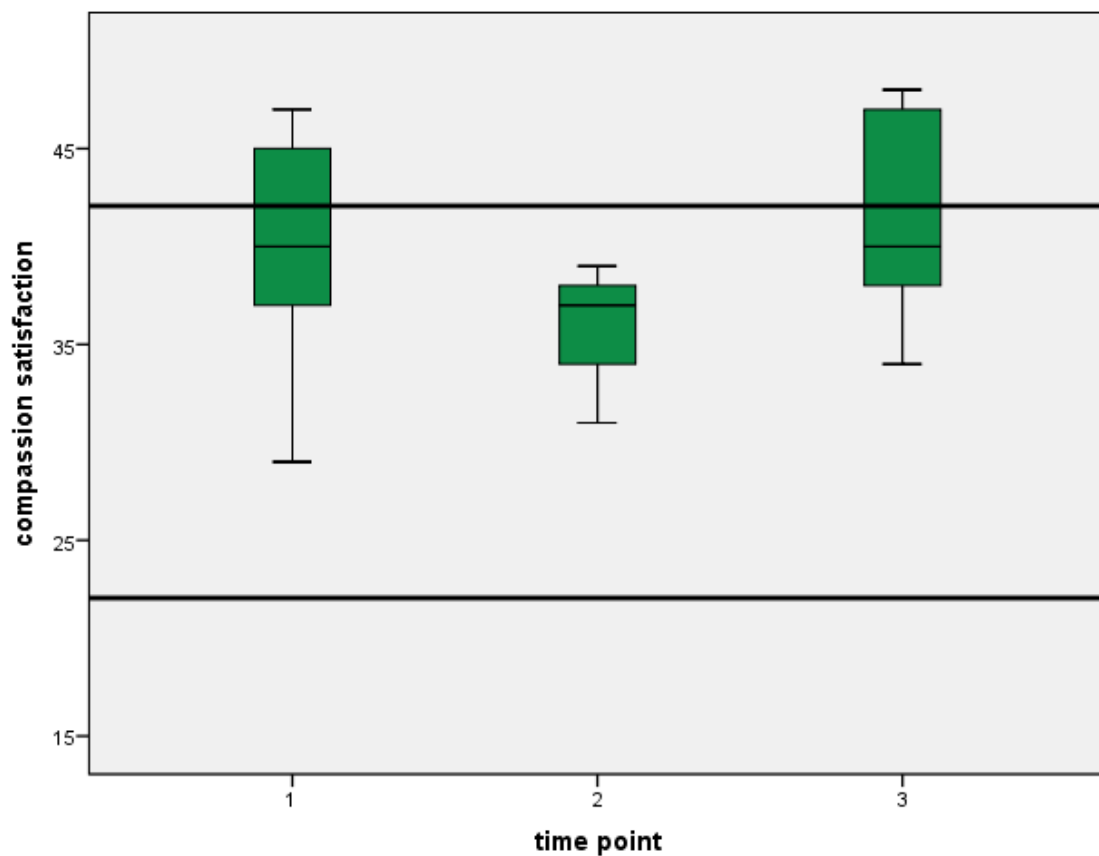


Figure 3: Box Plot Indicating Median, Quartiles, Extreme Values for Burnout at Each Time interval

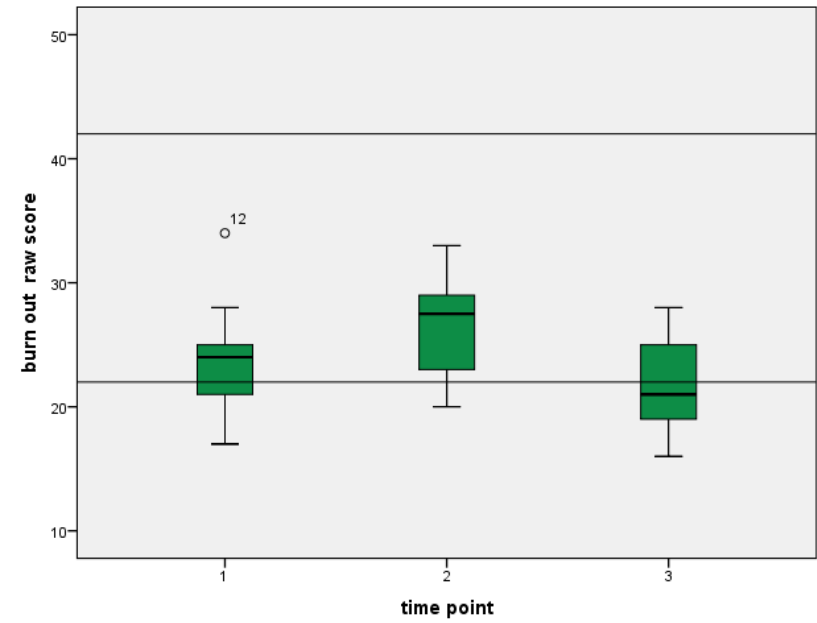
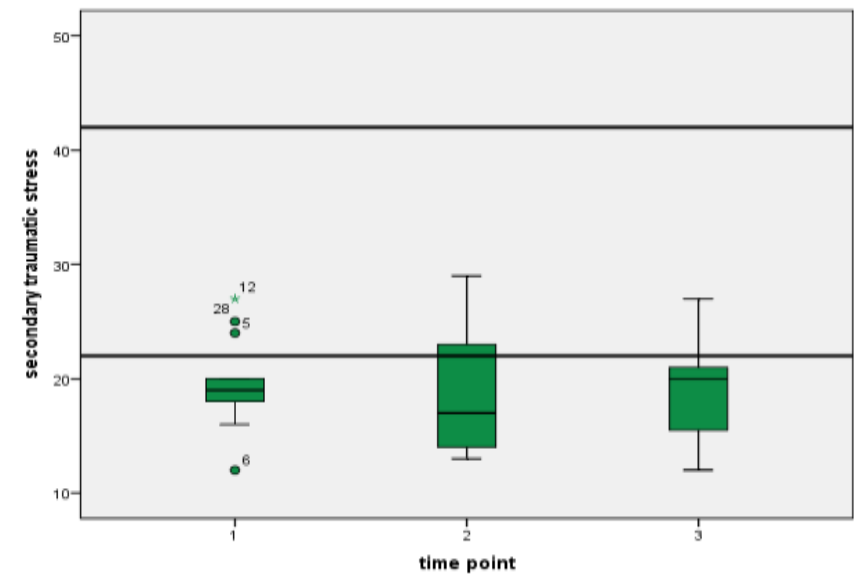


Figure 4: Box Plot Indicating Median, Quartiles, Extreme Values for Secondary Traumatic Stress at Each Time interval



The box plots clearly indicate that the scores of participants in this study are not closely aligned to the expected distribution based on the ProQOL manual baseline data. A Pearson's Chi-Square test of goodness of fit was conducted to compare frequencies with expected frequencies from the questionnaire manual. Differences between respondent scores and instrument norms were statistically significant ($p = < 0.01$) for each of the three subscales. The sample group reported higher than expected levels of compassion satisfaction (CS), and lower than expected burnout (BS) and secondary traumatic stress (STS).

Table 3 ProQol V Subscale Frequency Counts

Variable	Registered Mental Health Nurse % (n=9)	Health Care Assistant % (n=23)	Total % (n=32*)	Baseline benchmark studies %(n=1187)	X ²	df	P-value
Compassion Satisfaction							
Low (<22)	0.00 (0)	0.00 (0)	0.00 (0)	25	10.60	2	<0.01
Medium (23-41)	66.7 (6)	65.2 (15)	65.6 (21)	50			
High (>42)	33.3 (3)	34.8 (8)	34.4 (11)	25			
Burn Out							
Low (<22)	22.2 (2)	43.5 (10)	37.5 (12)	25	10.89	2	<0.01
Medium (23-41)	77.8 (7)	56.5 (13)	62.5 (20)	50			
High (>42)	0.00 (0)	0.00 (0)	0.00 (0)	25			
Secondary Traumatic Stress							
Low (<22)	66.7 (6)	82.6 (19)	78.1 (25)	25	46.25	2	<0.01
Medium (23-41)	33.3 (3)	17.4 (4)	21.9 (7)	50			
High (>42)	0.00 (0)	0.00 (0)	0.00 (0)	25			

* One respondent did not specify their role

Differences between HCA and RMN scores

Table 4 BO, CS and STS comparison by group

ProQol V Sub-scale	HCA or RMN	N	Mean	Std. Deviation	Std. Error Mean	P-Value
Burn Out	HCA	23	23.48	4.689	0.978	0.239
	RMN	9	25.11	3.855	1.285	
Compassion Satisfaction	HCA	23	39.13	5.480	1.143	0.313
	RMN	9	41.11	4.256	1.419	
Secondary traumatic Stress	HCA	23	18.52	4.316	0.900	0.170
	RMN	9	20.78	4.116	1.372	

RMNs reported higher levels of compassion satisfaction, and higher levels of secondary traumatic stress and burnout (Table 4). However, Mann Whitney U tests indicated that these differences were not significant (CS=0.313; BO=0.239; STS=0.170).

Item-level analysis of respondent scores

Frequency analysis and ranking of item-level responses for each participant at each time point revealed that four specific questionnaire items appeared to reflect the common stresses experienced within the adolescent PICU setting. These items were also sensitive to changes in individual participant's overall sense of compassion fatigue (BO+STS):

Table 5 ProQol V ranked by highest frequency of response

ProQol V Questionnaire Item	Subscale	Percentage of responses of '<i>Sometimes</i>' or more (score of ≥ 3)	Percentage of responses of '<i>Often</i>' or '<i>Very Often</i>' (score of ≥ 4)
I feel bogged down by the system	BO	87%	40%
Overwhelmed by workload	BO	75%	40 %
I feel worn out because of my work	BO	70%	40%
I am preoccupied by more than one young person I care for	STS	67%	20%

Discussion and Conclusions

This study provides new insights in the to the professional quality of life of mental health nurses and health care assistants working in Adolescent PICU settings

The findings dispute the study's original research hypothesis that nursing staff working in this setting would experience lower levels of compassion satisfaction and higher levels of compassion fatigue than the normative data for the ProQol V instrument. This was based on assumptions about the likely impact of relatively higher levels of violence and secondary traumatic stress to which staff are subject compared to the general population of people in carer positions, and assumed parallels with the experience of caring for adults in PICU settings. In fact, reported levels of compassion satisfaction were significantly higher than the benchmark data and reported levels of burnout and secondary traumatic stress were significantly lower.

Reported levels of compassion satisfaction within this study were higher still when compared to the findings of a study that administered the ProQol instrument to 70 mental health nurses working within similar secure settings but with adults; which found CS scores to be significantly below the normative data average (Lauvrud et al, 2009). Anecdotal clinical evidence has always indicated a number of differences between the experience of nursing adults and children within PICU settings because of the biological, developmental and social

aspects of childhood and adolescence (Milavic, 2009). However, this is the first published study to provide some data with which similar adult and child inpatient mental health settings can be compared

Although the levels of compassion satisfaction in the adolescent PICU context were higher than expected when compared to adult secure mental health inpatient settings, they are in keeping with observations that compassion satisfaction tends to be highest in populations who are working with children and young people (Stamm, 2010). Studies investigating quality of life in mental health nurses working in secure adult settings have hypothesised that the technical and procedural approach to institutional care is responsible to creating emotional distance in the nurse patient relationship, which may serve to reduce compassion satisfaction but also protect nurses from burn out and secondary traumatic stress symptoms (Sondenaa et al, 2013; Lauvrud et al, 2009). In contrast, the higher level of dependency and attachment needs in young people have been noted as requiring a much closer emotional relationship between children and inpatient mental health nurses (Rasmussen, Henderson and Muir-Cochrane, 2012). What is interesting in this study is that although the higher CS scores are in keeping with this hypothesis, the low burnout and secondary traumatic stress scores are not.

The levels of reported burnout and secondary traumatic stress are particularly low when compared to both the ProQol benchmark data, which highlights that

workers working with children and families in traumatic circumstances tend to show the highest burnout rates of all groups (Stamm, 2010), and studies in paediatric medical inpatient settings, which have shown that workers witness to children experiencing physical and psychological trauma are prone higher than average levels of secondary traumatic stress (Berger et al, 2015). As previously noted though relatively higher levels of compassion satisfaction serve as a protective factor against burn out and secondary traumatic stress (Ray et al, 2013), which may go some way to explaining these unexpected results

However, when compared with data from high frequency violence secure settings with adults (Lauvrud et al, 2009) the results of this study follow the same trend and are significantly lower than the ProQol benchmark data. High patient/staff ratio and a sense of mutual experience within the staff group have been suggested as possible explanations for lower than average levels of burnout and secondary traumatic stress in Adult PICU and secure settings (Lauvrud et al, 2009). Although it is not possible to determine a relationship in this study, these factors are also common to Adolescent PICU. Furthermore, staff completing the questionnaire continued to be regularly exposed to new violent or traumatic encounters with young people during the data collection period, which could potentially account for an under-reporting of secondary traumatic stress symptoms. Lauvrud et al (2009) highlights that staff who continue to be exposed to secondary trauma or violence at the time of completing the ProQol instrument tend to under report its impact. This is

thought to be due to the need to continue to function in their role and therefore possibly distance themselves from the true impact of it, as well as some temporal and psychological distance being needed to process and develop a perspective on the impact of one's experiences. This phenomenon has been referred to as "still being in the trenches" (p35, Lauvrud, 2009).

Although data analysis shows that the participant group reports below average levels of burnout and secondary traumatic stress overall, item level analysis has highlighted that participants commonly identified with feelings of being bogged down, overwhelmed and worn out by their work, at the same time as feeling preoccupied with some of the young people for whom they care. If this is a state of norm in which nurses in Adolescent PICU have to practice, it raises significant questions for Adolescent PICU nursing management systems. How to enable staff to identify times when they are experiencing characteristics indicative of compassion fatigue and secondary traumatic distress? How to provide effective strategies to counter their effects, when it is not possible to reduce actual levels of clinical incident and acuity within the patient group? It is also of note that within the unit in which this study was conducted, nursing staff had regular access to externally facilitated group clinical supervision as part of a newly implemented staff wellbeing strategy. Facilitated reflective practice and supervision groups have been reported to lessen the extent of emotional exhaustion in mental health nurses (Edwards et al, 2006). A qualitative evaluation of the impact of the clinical supervision group on staff wellbeing and quality of life is currently in progress and results will be published in due course.

Although they did not reach the level of statistical significance, it is noteworthy that descriptive differences in mean scores at time point 2 (lower compassion satisfaction and higher burnout scores), correlated with a period of increased clinical acuity on the unit and an associated increase in levels of enhanced nursing observation. Enhanced, special or close nursing observations have been identified as having a negative impact upon nursing staff wellbeing and satisfaction (O'Brien and Cole, 2004; Holylake, 2013). How and why increased levels of enhanced observation negatively impacts upon nurses wellbeing within the adolescent PICU context has been investigated within a concurrent qualitative arm of this research study (Foster and Smedley, 2016).

Although not statistically significant, the findings also suggest that the domains of stress may be different between registered mental health nurses, who showed comparatively higher burnout, and health care assistants, who showed comparatively lower levels of compassion satisfaction. This observation warrants further investigation, as the lack of statistical significance may be due to low statistical power of this study, particularly with regard to the small number of registered mental health nurses in the sample.

Strengths, limitations, next steps and further research

The strength of this study is that it is the first published study to investigate professional quality of life within the mental health nursing population working in Adolescent PICU. This is an important area of investigation because the

domains upon which overall professional quality of life are based have the potential to impact directly on the quality of clinical care provided in this setting. Although only conducted in one unit, this represents approximately a fifth of the national workforce. The initial response rate as a proportion of the total population and the proportional split between registered mental health nurses and health care assistants, indicate that the sample is reasonably proportionate. In addition, the use of a longitudinal rather than cross sectional design has strengthened the findings (Sondaana, 2013). The ProQol V Questionnaire demonstrated relative stability over time indicating that it is an appropriate tool for use within the setting. However, the small sample size has limited the statistical power of the study. In particular, although the study shows statistical differences between the sample ProQOL scores and the ProQOL benchmark data, the positive predictive value and effect size of the findings are likely to be low. The statistical significance (or not) of observed differences between the experience of registered mental health nurses and unqualified health care assistants identified, could not be calculated due to the low sample size in each sub-group. The limited sample size also meant that it was not possible to investigate the effect of confounding variables in the staff group profile (gender, age, length of time in service), as collecting this data would have compromised participant anonymity.

The number of participants leaving for a new job or training opportunities during the data collection period has also affected the statistical power of the study, by impacting on overall sample size at comparative time points, limiting the

reliability of statistical tests to confirm true and significant effects. The use of a rolling recruitment strategy, allowing new staff to join at each time point, could have gone some way to mitigating against this unforeseen limitation.

As this study has highlighted some significant differences between the reported levels of compassion satisfaction and compassion fatigue in the workforce when compared to benchmark data and the closest comparable workforce available, further larger scale studies, using a larger sample from multiple sites are warranted. To see if the findings in this single clinical setting are replicated in other adolescent PICU settings, and to enable a more fine grain analysis of potentially confounding variables that may explain the unexpected results of this study. In addition, the use of qualitative design, to gain understanding of the difference in experience of health care assistants and registered nurses, and the factors that may be enabling nurses within this setting to maintain their sense of compassion satisfaction in spite of the challenges, is recommended to inform strategies for improving job satisfaction and care effectiveness within PICU settings.

Within the specific setting in which the study was undertaken, findings from this study, in particular understanding of the questions within the ProQOL questionnaire that appear to be sensitive indicators of changes in staff wellbeing, have been shared with the unit's leadership team and incorporated into the clinical supervision strategy. In addition, a qualitative research

investigation into the impact of the clinical supervision group upon staff wellbeing and quality of life has begun.

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